



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,101	07/07/2004	Manfred Angermayr	2001P14008WOUS	5587
7590 Siemens Corporation Intellectual Property Department 170 Wood Avenue South Iselin, NJ 08830			EXAMINER CHRISS, ANDREW W	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 08/22/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/501,101

Applicant(s)

ANGER MAYR ET AL.

Examiner

Andrew Chriss

Art Unit

2609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/7/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Per Applicant's preliminary amendment, Claims 1-20 have been canceled and Claims 21-40 are currently pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 21, 22, 29, 30, and 39** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 21, the claim language is directed to *a* network node (emphasis added). Therefore, the claim language "all signalling of the *other network node*" (emphasis added) lacks antecedent basis.

Regarding Claim 22, the claim language cites "the second internal logical network comprises a signalling point code which is distinct from the network node." It is unclear based on the specification whether the claim language is referring to the network node or the other network node cited in Claim 21. Further, for examination purposes, Examiner assumes the cited signalling point code is distinct from the signalling point code assigned to the network node.

Regarding Claims 29, 30, and 39, assignment of internal logical networks to a pair by a table or mathematical algorithm is claimed. It is unclear based on the specification how a mathematical algorithm would be used in such a capacity. Further, it is unclear whether Claims 29 and 39 contain an alternative limitation. For examination purposes, Examiner assumes that

Art Unit: 2609

both claims contain alternative limitations. For proper wording of alternative limitations, see *MPEP 2173.05(h)*.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 21-24, 28 and 29** rejected under 35 U.S.C. 102(e) as being anticipated by Rose (United States Patent Application Publication US 2001/0002194 A1).

Regarding Claim 21, Rose teaches a node as part of a distributed signalling exchange in a telecommunications network in Figure 5. Each node is comprised of multiple trunk routes, equivalent to Applicant's claimed internal networks. Figure 5 further shows signalling connections between multiple nodes in the distributed exchange. Additionally, the nodes utilize the same signalling point codes (denoted as 'X' and 'Y' in the figure).

Regarding Claim 22, Rose teaches that the node comprising multiple internal networks utilizes multiple signalling point codes (Figure 5), thus a second internal logical network would have a code distinct from that assigned to the network node.

Regarding Claim 23, Rose teaches that distributed exchange contains nodes which each have signalling connections set up with other nodes in the telecommunications network. Specifically, Node p in Figure 6 has a signalling connection established with Exchange A via

Art Unit: 2609

Signalling Link Set A-X. If that route is not available for signalling, Exchange A communicates with Exchange B, which will forward the signalling request back to the distributed signalling exchange via another trunk route (paragraph 0085).

Regarding Claim 24, Rose teaches the network a signalling link set failing and diverting signalling messages via another exchange in the network. When an exchange receives a signalling message indicating an alternate signalling link set is being used, it realizes the link has failed (paragraph 0085).

Regarding Claim 28, Rose teaches each node in the exchange contains pairs of trunk routes, thus a pair of internal logical networks (Figure 5). Pairs of trunk routes are further set up in other nodes in the distributed exchange in a similar manner.

Regarding Claim 29, Rose teaches the trunk routes are assigned by data tables (paragraph 0085).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

Art Unit: 2609

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. **Claim 25** rejected under 35 U.S.C. 103(a) as being unpatentable over Rose in view of Okanou et al (United States Patent 6,122,268), hereinafter Okanou. Rose teaches all of the limitations of Claim 21, as described above. However, Rose does not teach answering routeset test messages sent to the second internal logical network with routing information from the first logical internal logical network. In the same field of endeavor, Okanou teaches utilizing proxy address resolution protocol (ARP) messaging (column 5, line 51 – column 6, line 22), with functionality similar to that found in the instant invention. Specifically, a node that wants to transfer a packet to a host broadcasts a message requesting the link layer address corresponding to the geographical identifier of that host. In applying proxy ARP, the foreign agent (FA) receives the request for the link layer address and, instead of transferring the address of the destination host, transmits its own link layer address. Thus, a network node coupled to one logical network of another network node receives routing information from another logical network. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the properties of the proxy ARP protocol taught in Okanou with Rose in order to allocate geographical identifiers to plural movable hosts in a sub network.

9. **Claims 26 and 27** rejected under 35 U.S.C. 103(a) as being unpatentable over Rose in view of Havansi (United States Patent 5,930,236).

Regarding Claim 26, Rose teaches all of the limitations of Claim 21, as described above. However, Rose does not teach sending overload messages arriving a first internal logical network to a network node coupled to a second internal logical network. In the same field of endeavor, Havansi teaches a transfer-prohibited (TFP) message, equivalent to Applicant's

Art Unit: 2609

claimed overload message, which is used to test routes between signalling nodes (column 5, line 66 – column 6, line 44). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the overload message taught in Havansi with the multiple internal networks taught in Rose in order to maintain availability of nodes during a circular rerouting event.

Regarding Claim 27, Havansi further teaches blocking the sending of the TFP message so as not to cause oscillation in the system (column 6, lines 33-34). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Havansi with Rose in order to maintain availability of nodes during a circular rerouting event.

10. **Claim 30** rejected under 35 U.S.C. 103(a) as being unpatentable over Rose in view of Segal (United States Patent 5,737,404) and Doshi et al (United States Patent 6,529,499), hereinafter Doshi. Rose teaches all of the limitations of Claim 21 above. However, Rose does not teach setting up a third internal logical network where a second signalling connection exists to another network node in the same manner as the second internal logical network. In the same field of endeavor, Segal teaches multiple internal networks (via multiple network interface cards), with each internal network connected in the same manner (via Ethernet interfaces) to another network node (Figure 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Segal with Rose in order to provide an expandable modular distributed architecture that includes a method of MTPL3 level redundancy. However, the aforementioned references do not teach assigning messages for forwarding via a mathematical algorithm. In the same field of endeavor, Doshi teaches a weighted routing algorithm which is used to determine a routing path for forwarding a packet (column 5, lines 37-41). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the

Art Unit: 2609

mathematical forwarding algorithm taught in Doshi with the multiple internal networks taught in Rose, as modified above, in order to provide quality of service guarantees for acceptable delay and jitter characteristics without the need to directly signal the individual routes over which an IP network path is established.

11. **Claims 31-34, 38, and 39** rejected under 35 U.S.C. 103(a) as being unpatentable over Gavaras et al (United States Patent 5,048,081), hereinafter Gavaras, in view of Rose.

Regarding Claim 31, Gavaras teaches a method of adding a new exchange (network node) to a telecommunications network (Abstract). However, Gavaras does not teach setting up two internal logical networks, setting up a signalling connection from one of the internal logical networks to another network node, and handling all signalling of the other network node, wherein both network nodes have the same signalling point code. In the same field of endeavor, Rose teaches the above limitations, as described with regards to Claim 21 above. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Rose with Gavaras in order to provide a distributed signalling exchange resilient to failures or local problems at any one of the exchange nodes.

Regarding Claim 32, Gavaras teaches a method of adding a new node to a telecommunications network, as described with regards to Claim 31 above. Further, Gavaras teaches that the point code originally assigned to another exchange is assigned to the added exchange (column 5, lines 8-16), thus the code was already known by the other network node. However, Gavaras does not teach adding a network node with multiple internal networks. In the same field of endeavor, Rose teaches a network node containing multiple internal networks, as described with regards to Claim 21 above. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the signalling node taught in Rose with node

Art Unit: 2609

addition method taught in Gavaras in order to provide a distributed signalling exchange resilient to failures or local problems at any one of the exchange nodes.

Regarding Claim 33, Rose further teaches the claimed signalling arrangement, as described with regards to Claim 23 above. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the signalling arrangement taught in Rose with* node addition method taught in Gavaras in order to provide a distributed signalling exchange resilient to failures or local problems at any one of the exchange nodes.

Regarding Claim 34, Rose further teaches sending messages indicating that a destination in the first internal logical network has failed, as described with regards to Claim 24 above. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Rose with Gavaras in order to provide a distributed signalling exchange resilient to failures or local problems at any one of the exchange nodes.

Regarding Claim 38, Rose further teaches forming pairs of internal logical networks, as described with regards to Claim 28 above. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Rose with Gavaras in order to provide a distributed signalling exchange resilient to failures or local problems at any one of the exchange nodes.

Regarding Claim 39, Rose further teaches assigning internal logical networks via data tables, as described with regards to Claim 29 above. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Rose with Gavaras in order to provide a distributed signalling exchange resilient to failures or local problems at any one of the exchange nodes.

Art Unit: 2609

12. **Claim 35** rejected under 35 U.S.C. 103(a) as being unpatentable over Gavaras in view of Rose, as applied to Claim 31 above, and further in view of Okanou. Gavaras and Rose teach all of the limitations of Claim 31, as described above. However, the references do not teach answering routeset test messages sent to the second internal logical network with routing information from the first logical internal logical network. In the same field of endeavor, Okanou teaches proxy ARP messaging, as discussed with regards to Claim 25 above. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the properties of the proxy ARP protocol taught in Okanou with Rose in order to allocate geographical identifiers to plural movable hosts in a sub network.

13. **Claims 36 and 37** rejected under 35 U.S.C. 103(a) as being unpatentable over Gavaras in view of Rose, as applied to Claim 31 above, and further in view of Havansi.

Regarding Claim 36, Gavaras and Rose teach all of the limitations of Claim 31, as described above. However, the references do not teach sending overload messages arriving a first internal logical network to a network node coupled to a second internal logical network. In the same field of endeavor, Havansi teaches a transfer-prohibited (TFP) message, equivalent to Applicant's claimed overload message, which is used to test routes between signalling nodes (column 5, line 66 – column 6, line 44). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the overload message taught in Havansi with the multiple internal networks taught in Rose in order to maintain availability of nodes during a circular rerouting event.

Regarding Claim 37, Havansi further teaches blocking the sending of the TFP message so as not to cause oscillation in the system (column 6, lines 33-34). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Havansi with Rose in

Art Unit: 2609

order to maintain availability of nodes during a circular rerouting event. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Havansi with Gavaras, as modified above, in order to maintain availability of nodes during a circular rerouting event.

14. **Claim 40** rejected under 35 U.S.C. 103(a) as being unpatentable over Gavaras in view of Rose, as applied to Claim 31 above, and further in view of Segal and Doshi. Gavaras and Rose teach all of the limitations of Claim 31, as described above. However, the references do not teach setting up a third internal logical network where a second signalling connection exists to another network node in the same manner as the second internal logical network. In the same field of endeavor, Segal teaches multiple internal networks (via multiple network interface cards), with each internal network connected in the same manner (via Ethernet interfaces) to another network node (Figure 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Segal with Gavaras, as modified above, in order to provide an expandable modular distributed architecture that includes a method of MTPL3 level redundancy. However, the aforementioned references do not teach assigning messages for forwarding via a mathematical algorithm. In the same field of endeavor, Doshi teaches a weighted routing algorithm which is used to determine a routing path for forwarding a packet (column 5, lines 37-41). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the mathematical forwarding algorithm taught in Doshi with the multiple internal networks taught in Gavaras, as modified above, in order to provide quality of service guarantees for acceptable delay and jitter characteristics without the need to directly signal the individual routes over which an IP network path is established.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Prasad et al (United States Patent Application Publication US 2003/0118001 A1) is directed to a method and system using SS7 signalling and control connection part (SCCP) in a distributed network having shared point codes.
- b. Simon (United States Patent 6,678,242) is directed to a signalling system for telecommunications.
- c. Garcia-Martin (United States Patent 6,775,234) is directed to a method of routing information at a signalling point of a telecommunications network.
- d. Oman (United States Patent 6,314,109) is directed to a method and apparatus for adding or augmenting a network node.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Chriss whose telephone number is 571-272-1774. The examiner can normally be reached on Monday - Friday, 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Garber can be reached on 571-270-1202. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2609

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrew Chriss
Examiner
Art Unit 2609

AC

A handwritten signature in black ink, appearing to read "Andrew Chriss", is written over the printed name and title.